



UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/994,038	12/18/97	YAMAZAKI	S 07977/208001

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MM21/1229

EXAMINER

COLEMAN, W

ART UNIT

PAPER NUMBER

2814

DATE MAILED: 12/29/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/994,038

Applicant(s)
Shunpei Yamazaki, Satoshi Teramoto

Examiner
William David Coleman

Group Art Unit
2814



☒ Responsive to communication(s) filed on Jun 3, 1998

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-15 is/are pending in the application.

Of the above, claim(s) 7-10 and 15 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-6 and 11-14 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☒ Claims 1-15 are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☒ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-6, and 11-14, drawn to semiconductor device, classified in class 257, subclass 7+.
 - II. Claims 7-10, and 15, drawn to method of manufacture, classified in class 438, subclass 5+.
2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the process as claimed can be used to make another and materially different device. For example liquid crystal display transistors can be made by the same process.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Scott Harris on Monday December 7, 1998 a provisional election was made without traverse to prosecute the invention of Group II, claims 1-6 and 11-14. Affirmation of this election must be made by applicant in replying to this Office

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action. Claims 7-10 and 15 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-6 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki U.S. Patent 5,824,235 in view of Zhang et al. U.S. Patent 5,569,936.

Yamazaki (235) discloses a semiconductor device substantially as claimed. See figure 8A, also see column 8, lines 60-68, where the device is called a digital steel camera or an electron camera. The device has a function of saving an image photographed with CCD camera electronically. However, Yamazaki (235) fails to disclose a semiconductor film having any particular crystal structure. Zhang (936) discloses a semiconductor device with crystal structure to increase electron mobility and increased efficiency with catalytic material such as iron (Fe), cobalt (Co), and Platinum (Pt). In view of Zhang (936) it would have been obvious to incorporate other catalyst material, including iron, cobalt and platinum as claimed in Yamazaki (235) for increased electron mobility and increased efficiency.


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Yamazaki (235) fails to particularly disclosed the structure of rod-like or columnar crystallized material. Schoenfeld discloses a semiconductor device and examines the structure of crystallized material. See abstract and introduction, NiSi_2 precipitates forming a net of needle-like grown silicon crystallites to increase the transport properties of microcrystalline thin films. In view of Schoenfeld it would have been obvious to disclose the rod-like or columnar crystalline structure in the Yamazaki (235) semiconductor device which is merely the equivalent of needle-like grown silicon crystallites to increase transport properties of the semiconductor device.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to W. David Coleman whose telephone number is (703) 305-0004. The examiner can normally be reached on Monday-Friday from 9:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri, can be reached on (703) 306-2794. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Olik Chaudhuri
Supervisory Patent Examiner
Technology Center 2800